

*SDG LOCAL DATA ACTION  
SUBNATIONAL STRATEGY BRIEF*

# Calculating the Percent of Households Earning a Living Wage to Monitor Progress for Achieving SDG 8

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## INTRODUCTION

Under the USA Sustainable Cities Initiative (USA-SCI), Baltimore completed a report entitled “Baltimore’s Sustainable Future: Localizing the UN Sustainable Development Goals, Strategies and Indicators”, which recommends a comprehensive set of localized indicators for achieving the global Sustainable Development Goals (SDGs) in Baltimore.

The proposed indicators, which were developed through a consultative process with local representatives and experts, were chosen to track actionable strategies for decision-makers and stakeholders in Baltimore and to help set quantitative values for local targets that align with the global SDG targets. The data used to measure the indicators can track progress over time toward achieving those targets leading up to 2030. Indicators were evaluated according to these guiding principles:

- The data aligns with SDG targets and represents local priorities;
- Indicators reflect existing/parallel processes envisioning Baltimore’s future;
- Data is accessible and actionable and from a valid, reliable source;
- Baseline measures are recurring in order to be tracked over time;
- Measures can help address disparities through disaggregation by race and by gender.

Where available, the baseline measures for these indicators draw from open data sources including the aggregation of community-based indicators in Baltimore’s Vital Signs report produced annually by the Baltimore Neighborhood Indicators Alliance — Jacob France Institute<sup>1</sup> (BNIA-JFI).

## THE ISSUE

In 2016, BNIA-JFI helped facilitate the consultative process for the Baltimore SDG indicators. At the same time, there was a groundswell of support in the US, nationally and locally, for the Fight for \$15<sup>2</sup> campaign, which sought to raise the minimum wage to \$15 per hour. In Baltimore, a local councilwoman introduced a bill to increase the minimum wage to \$15 by 2020, and several candidates running for the open mayoral seat vowed to support the legislation<sup>3</sup>

if elected. While the political support was there for the increase in the minimum wage, the percent of Baltimore’s population that was earning a living wage — which incorporates the household composition — had not been calculated for the City. During consultations, stakeholders identified “Percent of Residents Earning a Living Wage” as a relevant indicator to set and track targets for SDG #8 (Decent Work and Economic Growth) in Baltimore. Once calculated, in conjunction with Median Household Income and Labor Force Participation this indicator would measure local progress toward achieving SDG Target 8.5 “achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.” Key partners who supported the indicator included Baltimore City Council, Baltimore CASH Campaign and United Workers.

## THE SOLUTION

BNIA-JFI, in consultation with other partners in the NNIP network<sup>4</sup>, determined the most feasible way to calculate this indicator would be by using a living wage methodology established by the Massachusetts Institute of Technology (MIT) — a formula that determines the percentage of city residents, sorted by household type, earning a living wage.

The living wage calculator, developed by MIT<sup>5</sup> as an alternative to the federal poverty threshold<sup>6</sup>, which does not account for living costs beyond a minimal food budget. The living wage model uses regionally- and community-specific expenditure data to calculate the costs that families incur for food, housing, transportation, health insurance, and child care. These costs are estimated for different family compositions ranging from one-adult households to households with two adults and three children. The living wage is the hourly amount that an individual must earn to support their family based on those household expenditures. This model accounts for the basic needs, or minimum subsistence, of a family. It does not include estimates for leisure, eating out, or savings.

## HOW TO CALCULATE THE INDICATOR

In the analysis below, we calculate the percentage of families by household type earning a living wage in Baltimore City, MD. The analysis includes one- and two-adult family households, with 0-3 children, whose wages are at or above the living

wage salary threshold calculated by the MIT Living Wage Calculator<sup>7</sup>. Institutional and non-institutional group quarters housing types<sup>8</sup> are excluded from analysis. For the complete data sources and methodology for calculating this indicator, see Appendices A & B.

## RESULTS

Based on the results in Table 1, households with two adults were far more likely to earn more than the living wage than households with only one adult. For 1-adult households with children the impacts are more severe. Only 13% of 1-adult/1-child households earn more than the living wage; only 6.4% of 1-adult/2-children households earned more than the living wage.

## STRENGTHS AND WEAKNESSES

Calculating the actual percentage of different household-types earning a living wage in Baltimore reveals a more nuanced picture of decent wages for all Baltimoreans. A key implication of this calculation is that a \$15 minimum wage would actually not achieve a living wage for everyone in all household types. In fact, the analysis shows that an increase of the minimum wage to \$12.33 immediately would bring non-children households in line with living standards in Baltimore. Additionally, access to quality and affordable childcare, particularly for pre-school ages, for all household types would be worth campaigning for in Baltimore. The partners who could be brought into the consultative process, then would include groups such as Ready at Five, Baltimore Head Start, and the Maryland Family Network. While the major weakness of the approach for calculating this indicator is the small sample size, the trend by household types remains clear.

## ADDITIONAL GUIDANCE

The MIT living wage calculator is available for many cities and regions in the US, making it possible to replicate as a localized indicator for SDG #8 for other areas as well. Technical documentation for the Living Wage Calculator and links to the sources used to make the cost estimates for expenses such as food, health care, and daycare is available online at: <http://livingwage.mit.edu/resources/Living-Wage-User-Guide-and-Technical-Notes-2016.pdf>.

Additional resources are provided in the appendix of Shearer, R. Liu, A., Holmes, N. and Ng, J. (2015). Opportunity clusters: Identifying pathways to good jobs in metro New Orleans. Available on-line at: [https://s3.amazonaws.com/gnocdc/reports/BMPP\\_NewOrleans\\_August10\\_final.pdf](https://s3.amazonaws.com/gnocdc/reports/BMPP_NewOrleans_August10_final.pdf)

**Table 1 Households earning more than Living Wage by Household Type, 2011-2015**

Household Type	Total Number of Households in Sample	Number Households in Sample earning more than Living Wage <sup>9</sup>	Percentage Households earning more than Living Wage
1 Adult/0 Children	4,031	1,495	37.0%
1 Adult/1 Child	291	38	13.0%
1 Adult/2 Children	204	13	6.4%
1 Adult/3 Children	68	0	0
2 Adults/0 Children	2,948	1,545	52.4%
2 Adults/1 Child	420	253	60.2%
2 Adults/2 Children	327	189	57.8%
2 Adults/3 Children	114	55	48.2%

# APPENDIX A: Living Wage By Household Type

## DATA

The data for this calculation are drawn from two sources, the MIT Living Wage Calculator and the US Census 2011-2015 American Community Survey (ACS), Public Use Microdata Sample (PUMS). The Living Wage Calculator estimates a living wage for families with one or two adults and zero to three children. The living wage is an hourly wage threshold that a household must make to be considered earning a ‘living wage.’ Annual wages or salaries are calculated based on a 40-hour work week, 52 weeks per year.

## METHODS

The geographical extent of this study is limited to Baltimore City, which is made up of five Public-Use Microsample Areas (PUMA—2010 Census geography): 00801, 00802, 00803, 00804, and 00805. Housing record-based data and person-record data from the US Census Public Use Microdata Sample (PUMS) files were loaded into a Microsoft Access database (see Figure 1 below) and joined by the ‘housing unit/Group quarters person serial number’ column. Filters were used to query required household characteristics for each household type and wage/salary information. The filters used for each household type are listed on pages 2-4. The income adjustment factor included in the PUMS data was used to transform all wage and salary data in 2015 dollars.

Figure 1 Example of Setting Up Living Wage Query in Microsoft Access

ss1Shmd.SERIALNO	ss1Spmd.SERIALNO	TYPE	NP	FES	HHT	NOC	SumOfWAGI	FPARC
2012000000274	2012000000274	1	4	6	2	0	1772.8484	4
2012000000844	2012000000844	1	3	8	3	0	0	2
2012000001622	2012000001622	1	2	4	1	0	0	4
2012000003235	2012000003235	2	1				0	
2012000003770	2012000003770	1	1		6	0	145999.28	
2012000003971	2012000003971	1	1		6	0	0	
2012000004226	2012000004226	1	2		5	0	36499.82	
2012000004888	2012000004888	1	1		4	0	0	
2012000005178	2012000005178	1	8	7	3	3	19814.188	3
2012000005327	2012000005327	1	1		6	0	0	
2012000006391	2012000006391	1	2	3	1	0	156427.8	4
2012000007828	2012000007828	1	4	2	1	1	20648.4696	2
2012000008029	2012000008029	1	2	8	3	0	26071.3	4
2012000008759	2012000008759	1	1		6	0	0	
2012000010321	2012000010321	1	1		4	0	62571.12	
2012000010559	2012000010559	1	4	1	1	2	526640.26	1
2012000011004	2012000011004	3	1				0	
2012000011434	2012000011434	1	3	8	3	0	5214.26	4
2012000011476	2012000011476	1	1		6	0	11471.372	
2012000011732	2012000011732	1	2	7	3	0	38376.9536	4
2012000012003	2012000012003	1	2		7	0	112419.4456	
2012000012070	2012000012070	1	5	4	1	0	54228.304	1
2012000012082	2012000012082	1	2	6	2	0	0	4
2012000012674	2012000012674	1	4	7	3	2	875.99568	3
2012000013651	2012000013651	2	1				0	
2012000014418	2012000014418	1	2	4	1	0	0	4
2012000014563	2012000014563	1	5	2	1	3	52142.6	1
2012000015057	2012000015057	1	1		6	0	93856.68	
2012000015137	2012000015137	1	1		6	0	0	
2012000015526	2012000015526	1	1		6	0	10949.946	
2012000015639	2012000015639	1	1		4	0	30242.708	
2012000015915	2012000015915	1	6	8	3	0	0	3
2012000016726	2012000016726	3	1				0	
2012000017059	2012000017059	1	2	4	1	0	0	4

The MIT Living Wage Calculator estimates living wage income thresholds for separate family types, including families with one working adult, two working adults, and zero to three children. Families with two working adults and at least one child have added childcare expenses and additional tax credits that are figured into the living wage estimate. Because the PUMS data does not specify the childcare needs of families with two adults and zero to three children, we have borrowed from assumptions made in Shearer, et al (2015)<sup>10</sup>. Specifically, (1) that there is a single living wage threshold that must be met by a certain household size, regardless of that household having one or two working adults, and (2) that in the case of families with two adults, one adult will cover child care. We therefore assume that these families have no child care costs and that figure is dropped from the calculation. Table 1 shows the costs calculated for each household type<sup>11</sup>:

**Table 2: Typical Expenses in the Living Wage Calculation for Baltimore City based on the Living Wage Calculator, MIT (2015)**

	1 Adult	1 Adult 1 Child	1 Adult 2 Children	1 Adult 3 Children	2 Adults	2 Adults 1 Child	2 Adults 2 Children	2 Adults 3 Children
<b>Food</b>	\$3,011	\$4,431	\$6,652	\$8,834	\$5,521	\$6,864	\$8,884	\$10,776
<b>Child Care</b>	\$0	\$7,809	\$11,313	\$14,818	\$0	\$0	\$0	\$0
<b>Medical</b>	\$2,330	\$6,951	\$6,752	\$6,720	\$5,455	\$6,752	\$6,720	\$6,835
<b>Housing</b>	\$9,996	\$14,784	\$14,784	\$18,888	\$11,820	\$14,784	\$14,784	\$18,888
<b>Transportation</b>	\$4,290	\$8,467	\$9,593	\$11,299	\$8,467	\$9,593	\$11,299	\$11,405
<b>Other</b>	\$2,146	\$3,894	\$4,682	\$5,290	\$3,894	\$4,682	\$5,290	\$5,013
<b>Taxes</b>	\$3,873	\$8,199	\$9,519	\$11,693	\$6,244	\$7,550	\$8,306	\$9,399
<b>Required Annual Income before taxes (MIT)</b>	\$25,646	\$54,535	\$63,295	\$77,542	\$41,381	\$50,255	\$55,245	\$62,317

**Table 3: Living (hourly) wage for the following households:**

Type of Household/Number of Children	Living Hourly Wage for Baltimore City
1 Adult (Working Full Time)	\$12.33
1 Adult(Working Full Time)/1 Child	\$26.22
1 Adult(Working Full Time)/2 Children	\$30.43
1 Adult(Working Full Time)/3 Children	\$37.28
2 Adults (1 Working Full Time)	\$19.89
2 Adults (1 Working Full Time)/1 Child	\$24.15
2 Adults (1 Working Full Time)/2 Children	\$26.56
2 Adults (1 Working Full Time)/3 Children	\$29.96
2 Adults (2 Working Full Time)	\$9.95 (per working adult)
2 Adults (2 Working Full Time)/1 Child	\$14.28 (per working adult)
2 Adults (2 Working Full Time)/2 Children	\$16.48 (per working adult)
2 Adults (2 Working Full Time)/3 Children	\$19.17 (per working adult)

# APPENDIX B:

## List of Variables and Queries

The following fields were used to create queries using Microsoft Access:

Housing Type (TYPE)	1= Housing unit
Number of Persons following this household record (NP)	00 = vacant 01= 1 02 to 20 = numerical value 2 to 20
Number of Children (NOC)	1 to 20 = Number of persons in housing record from 1 to 20 persons

Using the key fields and queries from the PUMS database, the total Baltimore City sample size of household based records was 13,596. The total number of type 1 housing unit records was 10,228.

### QUERIES

The following queries were run for each household type:

#### Selection Query for 1 Adult, No Children

TYPE = 1

NP = 1

Total number of this category of household types in sample = 4,031

Total number with Wages or Salary Income Past 12 months greater than \$25,646 = 1,495

#### Selection Query for 1 Adult, One Child

TYPE = 1

NP = 2

NOC= 1

Total number of records of this type = 291

Total number with Wages or Salary Income Past 12 months greater than \$55,245 = 38

#### Selection Query for 1 Adult, Two Children

TYPE = 1

NP = 3

NOC= 2

Total number of records of this type = 204

Total number with Wages or Salary Income Past 12 months greater than \$63,294 = 13

#### Selection Query for 1 Adult, Three Children

TYPE = 1

NP = 4

NOC= 3

Total number of records of this type = 68

Total number with Wages or Salary Income Past 12 months greater than \$77,542 = 0

#### Selection Query for 2 Adults, No Children

TYPE = 1

NP = 2

NOC= 0

Total number of records of this type = 2,948

Total number with Wages or Salary Income Past 12 months greater than \$41,371 = 1,545

#### Selection Query for 2 Adults, One Child<sup>12</sup>

TYPE = 1

NP = 3

NOC= 1

Total number of records of this type = 420

Total number with Wages or Salary Income Past 12 months greater than \$50,232 = 253

#### Selection Query for 2 Adults, Two Children<sup>13</sup>

TYPE = 1

NP = 4

NOC= 2

Total number of records of this type = 327

Total number with Wages or Salary Income Past 12 months greater than \$55,245 = 189

#### Selection Query for 2 Adults, Three Children<sup>14</sup>

TYPE = 1 (Housing unit)

NP = 4

NOC= 2

Total number of records of this type = 114

Total number with Wages or Salary Income Past 12 months greater than \$62,317 = 55

The following are available data, but were not used in the query. They could be used to further refine the selection of household characteristics:

#### Household Type (HHT)

1= married couple

2 = other family, male HH no wife

3 = other family, female HH no husband

4 = other family: male HH alone

5 = non-family, male HH not alone

6 = non family, female HH alone

7 = non-family, female HH not alone

### Family Presence and age of related children (FPARC)

b = not a family

1 = with related children under 5 only

2 = with related children 5-17 only

3 = with related children under 5 and 5-17

4 = no children

## References

1. For more information on the BNIA-JFI project and the annual Vital Signs report, visit [www.bnijfi.org](http://www.bnijfi.org). BNIA-JFI is the Baltimore partner of the National Neighborhood Indicators Partnership (NNIP) [www.neighborhoodindicators.org](http://www.neighborhoodindicators.org).
2. The Guardian, April 2016, "California lawmakers approve \$15 minimum wage, the highest in the US" <https://www.theguardian.com/us-news/2016/mar/31/california-minimum-wage-fight-for-15-jerry-brown>; For more information on the campaign, visit the website <http://fightfor15.org/>.
3. In These Times, April 2016, Tuesday's Baltimore Primary Results Mean a \$15 Minimum Wage Is Likely Coming Soon [http://inthesetimes.com/working/entry/19086/tuesdays\\_baltimore\\_primary\\_results\\_mean\\_a\\_15\\_minimum\\_wage\\_is\\_likely\\_coming](http://inthesetimes.com/working/entry/19086/tuesdays_baltimore_primary_results_mean_a_15_minimum_wage_is_likely_coming).
4. See full list of NNIP partners in US cities, <http://www.neighborhoodindicators.org/partners/profiles>
5. MIT Living Wage Calculator, background and methods. Available on-line at: [livingwage.mit.edu/pages/about](http://livingwage.mit.edu/pages/about).
6. The Census Bureau provides poverty data from several household surveys and programs. <https://www.census.gov/topics/income-poverty/poverty.html>
7. MIT Living Wage Calculation for Baltimore City, Maryland. Available on-line at: <http://livingwage.mit.edu/counties/24510>.
8. Explanation of these categories can be accessed on the US Census Bureau website: <https://www.census.gov/topics/income-poverty/poverty/guidance/group-quarters.html>.
9. The annual salary that is needed to meet the LW threshold was used to calculate the number of households with wages greater than or equal to that number. No data on the number of workers in each household was used for this calculation. Therefore these households may have one or two workers.
10. Shearer, R. Liu, A., Holmes, N. and Ng, J. (2015). Opportunity clusters: Identifying pathways to good jobs in metro New Orleans. Available on-line at: [https://s3.amazonaws.com/gnocdc/reports/BMPP\\_NewOrleans\\_August10\\_final.pdf](https://s3.amazonaws.com/gnocdc/reports/BMPP_NewOrleans_August10_final.pdf)
11. MIT Living Wage Calculation for Baltimore City, Maryland. Available on-line at: <http://livingwage.mit.edu/counties/24510>.
12. There were 231 families meeting the living wage threshold when calculating in the addition of child care costs, for example, in households with two full time workers.
13. There were 162 families meeting the living wage threshold when calculating in the addition of child care costs, for example, in households with two full time workers.
14. There were 44 families meeting the living wage threshold when calculating in the addition of child care costs, for example, in households with two full time workers.